

P A T E N T C L A I M S

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1. Thermocycler having a heating plate (1) which forms a heating surface (3) for holding a microtitre plate (13) whose wells (15) are held in indentations (4) provided in the heating surface (3), and having a cover (14) which can be lowered and raised relative to the heating surface (3), **characterized in that** a plurality of elastically compressible lifting elements (7) which, at least when the cover (14) is raised, project beyond the edges of the indentations (4) are distributed over the heating surface (3).

2. Thermocycler according to Claim 1, **characterized in that** the projection of the lifting elements (7) is at least 2 mm, preferably at least 5 mm.

3. Thermocycler according to Claim 1 or 2, **characterized in that** the density of the lifting elements (7) is at least 1 per 30 cm².

4. Thermocycler according to any of Claims 1 to 3, **characterized in that** each lifting element (7) is removably fixed to the heating surface (3).

5. Thermocycler according to any of Claims 1 to 4, **characterized in that** each lifting element (7) is inserted into a blind hole (6) in the heating surface (3).

6. Thermocycler according to Claims 4 and 5, **characterized in that** the fixing of the lifting element (7) is effected by frictional locking with the walls of the blind hole (6).

¶ 7. Lifting element for a thermocycler according to ~~any of~~ Claims 1 to 6, characterized in that it comprises an elongated spring element which is compressible in the longitudinal direction and carries a contact part which forms an abutting surface (12), oriented transversely to the longitudinal direction, at the upper end of the lifting element.

B1 8. Lifting element according to Claim 7, characterized in that the contact part consists of plastic, preferably PEEK, PTFE, FP, PPS or PI.

¶ 9. Lifting element according to Claim 7 or 8, characterized in that the spring element is in the form of a coil spring (8) and the contact part is in the form of a contact pin (9) which comprises a shaft (10) surrounded by the upper part of the coil spring (8) and a laterally projecting head (11) which rests on the upper end of the coil spring (8) and whose upper surface forms the abutting surface (12).

10. Lifting element according to Claim 9, characterized in that the lowermost winding of the coil spring (8) is somewhat wider.

¶ 11. Lifting element according to Claim 9 or 10, characterized in that the contact pin (9) is rotationally symmetrical.

25 12. Lifting element according to Claim 11, characterized in that both the shaft (10) and the head (11) of the contact pin (9) are essentially cylindrical.

A 13. Lifting element according to any of Claims 7 to 12,
~~characterized in that its length is between 15 mm and
20 mm and the diameter of the abutting surface (12) is
at least 3 mm.~~

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* 5 14. Lifting element according to any of Claims 7 to 13,
~~characterized in that its spring constant is at least
5 N/mm.~~